

What is claimed is:

1. A system for controlling flow of liquid fuel and vapor during refueling of a motor vehicle fuel tank with a filler tube for receiving a fuel dispensing nozzle comprising:
  - (a) a vent valve disposed in the tank and having an inlet communicating with the vapor dome in the tank and an outlet communicating with a remote vapor storage device;
  - (b) a seal disposed in the filler tube and operable for sealing about the nozzle upon insertion therein;
  - (c) a recirculation conduit connected to admit fuel vapor to the filler tube at a location downstream of the seal; and,
  - (d) a neck portion in the filler tube downstream of the location of said recirculation conduit connection location, wherein said neck has the inner periphery thereof sized to receive the nozzle in closely fitting arrangement and to form an effective dynamic seal about liquid discharging from the nozzle.
2. The system defined in claim 1, wherein said recirculation conduit includes a one-way valve. .
3. The system defined in claim 1, wherein said vent valve outlet is connected to a hose connected to said storage device; and, said recirculation conduit has an end thereof connected to said hose.

4. The system defined in claim 1, wherein said recirculation conduit has one end connected through the wall of the tank and an end opposite said one end connected to said filler tube at said location.
  
5. The system defined in claim 1, wherein said vent valve is float operated.
  
6. The system defined in claim 1, wherein said neck portion has its inner diameter sized about 1.2 times the nozzle diameter.

7. A method of controlling flow of liquid fuel and fuel vapor during refueling from a dispensing nozzle of a vehicle fuel tank having a filler tube comprising:
- (a) disposing a fuel vapor vent valve with the tank and communicating the valve inlet with the vapor dome in the interior of the tank and communicating the vent valve outlet to a fuel vapor storage device;
  - (b) disposing a seal in the filler tube for sealing about the dispensing nozzle upon insertion in the filler tube;
  - (c) recirculating fuel vapor to the filler tube at a location downstream of the nozzle seal; and,
  - (d) sizing a neck portion of the filler tube for effecting a dynamic seal between the inner surface of the said neck portion and fuel discharging from the nozzle.
8. The method defined in claim 7, wherein said step of communicating the vent valve outlet includes connecting a hose from the valve outlet to the storage device; and, said step of recirculating includes connecting a line from the hose to the filler tube at said location.
9. The method defined in claim 7, wherein said step of recirculating includes connecting one end of a conduit through the tank wall and connecting an end opposite the one end to the filler tube at said location.
10. The method defined in claim 7, wherein the step sizing a portion of the filler tube includes sizing the inner diameter of the portion about 1.2 times the nozzle diameter.

11. A system for controlling flow of liquid fuel and vapor during refueling from a refueling nozzle of a motor vehicle fuel tank with a filler tube comprising:
- (a) a vent valve disposed in the tank wall and having an inlet communicating with the vapor dome in the tank and an outlet communicating with a remote vapor storage device;
  - (b) a one-way valve operatively connected to admit vapor to the filler tube from the first conduit;
  - (c) a reduced portion of said filler tube downstream of the location at which said one-way valve is connected to the filler tube, said reduced portion sized for effecting a dynamic seal with fuel discharging from the nozzle; and,
  - (d) a seal about said nozzle disposed upstream.
12. The system defined in claim 11, wherein the inner diameter of said reduced portion of said filler tube is sized in the range of about 1.2 times the nozzle diameter.